**Instructional Day:** 19

**Topic Description:** This lesson builds on previous concepts to create a timer.

**Objectives:**

The students will be able to:

* Create a timer.

**Outline of the Lesson:**

* Review of Rock Paper Scissors solutions (10 minutes)
* Creation of a timer (15 minutes)
* Review of Timer solutions (5 minutes)
* Introduction of Timing Game (15 minutes)
* Timing Game theme (10 minutes)

**Student Activities:**

* Review Rock Paper Scissors solutions
* Create a timer.
* Review Timer solutions.
* Choose Timing Game theme.

**Teaching/Learning Strategies:**

* Review of Rock Paper Scissors solutions
  + Review rps solution.sb and rps solution b.sb.
  + Allow students to share their own unique solutions.
* Creation of a timer
  + Explain to students that they will make a timer that will count down from 10 to 0.
  + Show students Timer Project.
* Review of Timer solutions
  + Allow students to share their own unique solutions.
  + Review timer solution a.sb and timer solution b.sb.
* Introduction of Timing Game
  + Have students help build an example. (See timing.sb.)
  + Review Timing Game Sample Rubric.
* Timing Game theme
  + Circulate room and help students pick the theme of their timing game.

**Resources:**

* rps solution.sb (modified version of Jesse Moya’s solution)
* rps solution b.sb (modified version of Jesse Moya’s solution)
* Timer Project
* Timing Game Sample Rubric
* timer solution a.sb
* timer solution b.sb
* timing.sb

**Timer Project**

How to make a timer in Scratch:

1. Create a variable called timer.
2. When the flag is clicked, initialize the timer to 10.
3. Continually, wait 1 second and check if the timer = 0
   1. output the current time either with a sprite or just show the variable
   2. If the timer = 0 make either the background or a huge sprite say “Time’s Up”
4. When the flag is clicked, everything should start over.
5. Be creative as to what you want your program to look like.
6. Make sure the timer stops at 0 and does not continue into negatives.

**Timing Game Sample Rubric**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Do you have?** | Points Possible | Yes | No | Points Earned |
| The Game |  |  |  |  |
| Have 3 or more “timed” sprites | 10 |  |  |  |
| Have 4 or more “timed” sprites | 5 |  |  |  |
| Use a timer for your game | 5 |  |  |  |
| Keep score (points) | 10 |  |  |  |
| Give the user feedback as to how well they timed their button pressing | 10 |  |  |  |
| Have a help screen with directions | 5 |  |  |  |
| Does the game reset when the flag is clicked | 10 |  |  |  |
| Does the game stop when it is over | 5 |  |  |  |
| Does the game notify the user when it is over | 10 |  |  |  |
| Does the game keep track of how many “perfects” in a row | 5 |  |  |  |
| Does the game get harder as you keep playing | 5 |  |  |  |
|  |  |  |  |  |
| **Peer Grading** | 20 |  |  |  |
|  |  |  |  |  |
| **Extra Credit** |  |  |  |  |
| Have the best project as voted on by peers | Up to 10 |  |  |  |
|  |  |  |  |  |
| **TOTAL:** | 100 |  |  |  |